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Illinois
Environmental
Protection Agency

IEPA/BOA

October 2003

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UNIVERSITY OF ILLINOIS
AT URBANA-CHAMPAIGN



Clean School Bus Program

**Helping Illinois School
Buses Make the Grade!**



Governor Rod R. Blagojevich
Director Renee Cipriano

Background

In Illinois, at least 70 percent of the 18,500 school buses in service today are powered by diesel fuel. Thousands of Illinois children ride these school buses, with many of the buses being powered by diesel engines that lack advanced emission control technologies.

The U.S. EPA has established new diesel engine and fuel standards to reduce emissions from trucks and buses. However, these standards do not become effective until 2006 and only apply to school buses being manufactured after that time. Many of Illinois' existing school buses will remain in service well beyond the effective dates of these new standards.

In preparing for the upcoming standards, major engine manufacturers and fuel providers are already marketing cleaner engines and fuels that meet the new standards. Retrofit equipment, to reduce emissions from existing school buses, is also now available. These efforts make it possible to reduce emissions from diesel-powered school buses.

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Clean School Bus Program

Governor Rod R. Blagojevich and the Illinois EPA have a goal under the Clean School Bus Program, to provide a healthier environment for Illinois school children.

The Governor's Illinois Clean School Bus Program will include assisting school districts in replacing buses with cleaner models; retrofitting existing buses with advanced emission control technologies; and implementing cleaner fuels. These efforts will significantly reduce the emissions of existing diesel-powered school buses and improve air quality in and around the school buildings and throughout local communities.

Initial funding for the Clean School Bus Program has been provided through a supplemental environmental project, under the terms of an Illinois EPA enforcement case. Additional funding through federal grants and a corporate sponsorship program, "Adopt a Bus", are being sought.

Program Objectives

- Reduce children's daily exposure to potentially harmful pollutants emitted from diesel school bus engines.
- Utilize appropriate strategies to achieve reduced emissions. Available strategies will be targeted at reducing particulate matter and other potentially harmful emissions from diesel-powered school buses .
- Educate school district personnel and commercial school bus providers on how various clean school bus options can improve the school bus fleet and provide significant environmental and health benefits.
- Educate school district personnel and commercial school bus providers on the emissions and potential health impacts associated with diesel bus idling, with a goal of encouraging the elimination of unnecessary idling.

For more information, contact the Illinois EPA, at 217/524-4947.

Clean School Bus Options

Oxidation Catalyst Retrofit: An oxidation catalyst is a type of advanced catalytic converter for diesel vehicles. Oxidation catalysts can perform on either regular diesel or Ultra-Low Sulfur Diesel fuel. This type of retrofit can reduce Particulate Matter (PM) by 20-30 percent, hydrocarbons by 50 percent and carbon monoxide by 40 percent.

Particulate Filters: Particulate filters can be installed between the engine and the exhaust pipe of a diesel-powered bus. The filters are effective in reducing PM emissions by 60-90 percent .

Ultra-Low Sulfur Diesel: ULSD can be used in any diesel vehicle. It has significantly less sulfur content, resulting in reductions of fine PM up to 10 percent.

Biodiesel Fuels: Biodiesel is a mixture of diesel fuel with soybean or vegetable oil based products. A standard diesel engine is capable of operating on biodiesel mixtures up to 20 percent without modifications. PM emissions can be reduced by 10 percent.

Clean Diesel Technology Engines: Some manufacturers are making new diesel engines that already meet or exceed the more stringent emission standards effective in 2007. This new technology can reduce PM by up to 95 percent.

Natural Gas and Propane Engines: As the fastest-growing types of “non-conventional” buses, natural gas buses account for nearly one-third of all new mass transit bus orders in the nation. Propane school buses are increasing in numbers as well. There are virtually no visible PM emissions from natural gas and propane engines.

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